

CPC**COOPERATIVE PATENT CLASSIFICATION****B67C****CLEANING, FILLING WITH LIQUIDS OR SEMILIQUIDS, OR EMPTYING, OF BOTTLES, JARS, CANS, CASKS, BARRELS, OR SIMILAR CONTAINERS, NOT OTHERWISE PROVIDED FOR; FUNNELS****B67C 3/00**

Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus; Filling casks or barrels with liquids or semiliquids (filling containers with liquids or semiliquids using apparatus other than bottling or like apparatus [B65B 3/00](#))

B67C 3/001

- . {Cleaning of filling devices}

B67C 3/002

- .. {using cups or dummies to be placed under the filling heads}

B67C 3/004

- ... {permanently attached to the filling machine and movable between a rest and a working position}

B67C 3/005

- .. {Cleaning outside parts of filling devices}

B67C 3/007

- . {Applications of control, warning or safety devices in filling machinery ([flow-control B67C 3/28](#))}

B67C 3/008

- . {Bottling or like apparatus specially adapted to be transported, e.g. positioned on a truck or in a container}

B67C 3/02

- . Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus

B67C 3/023

- .. {Filling multiple liquids in a container ([B67C 3/208](#) takes precedence)}

B67C 3/026

- ... {Filling the liquids simultaneously}

B67C 3/04

- .. without applying pressure

B67C 3/045

- ... {Apparatus specially adapted for filling bottles with hot liquids}

B67C 3/06

- .. using counterpressure, i.e. filling while the container is under pressure

B67C 3/065

- ... {Filling siphons, e.g. carbonating beverages during filling ([siphons B67D 1/0456](#))}

B67C 3/08

- ... and subsequently lowering the counterpressure

B67C 3/10

- ... preliminary filling with inert gases, e.g. carbon dioxide

B67C 3/12

- ... Pressure-control devices

B67C 3/14

- ... specially adapted for filling with hot liquids

B67C 3/16

- .. using suction

B67C 3/18

- .. using siphoning arrangements

B67C 3/20

- .. with provision for metering the liquids to be introduced, e.g. when adding syrups ([measuring volume, or volume flow, in general G01F](#))

B67C 3/202

- ... {by weighing}

B67C 3/204

- ... {using dosing chambers}

B67C 3/206

- ... {using arrangements of cylinders and pistons ([B67C 3/208](#) takes precedence)}

B67C 3/208	...	{specially adapted for adding small amounts of additional liquids, e.g. syrup}
B67C 3/22	..	Details
B67C 3/222	...	{Head-space air removing devices, e.g. by inducing foam}
B67C 3/223	....	{by squeezing the container elastically}
B67C 3/225	...	{ Means for filling simultaneously, e.g. in a rotary filling apparatus or multiple rows of containers}
B67C 3/24	...	Devices for supporting or handling bottles (transport or storing devices in general B65G)
B67C 3/242	....	{engaging with bottle necks (B67C 3/26 takes precedence)}
B67C 3/244	....	{Bottle lifting devices actuated by jacks, e.g. hydraulic, pneumatic (B67C 3/242 takes precedence)}
B67C 3/246	....	{Bottle lifting devices actuated by cams (B67C 3/242 takes precedence)}
B67C 3/248	....	{Bottle lifting devices actuated by threads B67C 3/242 takes precedence }
B67C 3/26	...	Filling-heads; Means for engaging filling-heads with bottle necks
B67C 3/2608	....	{comprising anti-dripping means}
B67C 3/2611	.....	{to prevent dripping from sources other than the filling product, e.g. deflectors for vapours condensed on the outer surface of the filling device}
B67C 3/2614	....	{specially adapted for counter-pressure filling}
B67C 3/2617	.....	{the liquid valve being opened by mechanical or electrical actuation}
B67C 3/262	.....	{and the filling operation stopping when the liquid rises to a level at which it closes a vent opening}
B67C 3/2622	.....	{and the filling operation stopping when probes, e.g. electrical or optical probes, sense the wanted liquid level (level control in general G01F)}
B67C 3/2625	.....	{the liquid valve being opened automatically when a given counter-pressure is obtained in the container to be filled}
B67C 3/2628	.....	{and the filling operation stopping when the liquid rises to a level at which it closes a vent opening}
B67C 3/2631	.....	{and the filling operation stopping when probes, e.g. electrical or optical probes, sense the wanted liquid level (level control in general G01F)}
B67C 3/2634	....	{specially adapted for vacuum or suction filling}
B67C 3/2637	....	{comprising a liquid valve opened by relative movement between the container and the filling head}
B67C 3/264	.....	{and the filling operation being carried out manually}
B67C 3/2642	....	{specially adapted for sterilising prior to filling}
B67C 3/28	...	Flow-control devices, e.g. using valves (B67C 3/2617 , B67C 3/2625 , B67C 3/2637 take precedence); valves in general F16K)
B67C 3/281	....	{Profiled valve bodies for smoothing the flow at the outlet of the filling nozzle}
B67C 3/282	....	{ related to filling level control (B67C 3/2617 , B67C 3/2625 take precedence)}
B67C 3/283	.....	{ using pressure sensing means}
B67C 3/284	.....	{ using non-liquid contact sensing means (B67C 3/283 takes precedence)}
B67C 3/285	.....	{ using liquid contact sensing means (B67C 3/283 takes precedence)}
B67C 3/286	....	{ related to flow rate control, i.e. controlling slow and fast filling phases}

B67C 3/287	.... { related to flow control using predetermined or real-time calculated parameters}
B67C 3/288	..... { using master-slave controls}
B67C 3/30	. Filling of barrels or casks
B67C 3/32	. . using counterpressure, i.e. filling while the container is under pressure
B67C 3/34	. . Devices for engaging filling-heads with filling-apertures
B67C 7/00	Concurrent cleaning, filling, and closing of bottles; Processes or devices for at least two of these operations
B67C 7/0006	. {Conveying; Synchronising}
B67C 7/0013	. . {Synchronising}
B67C 7/002	. . {General lay-out of bottle-handling machines}
B67C 7/0026	. . {the containers travelling along a linear path}
B67C 7/0033	. . . {the operation being performed batch-wise}
B67C 7/004	. . {the containers travelling along a circular path}
B67C 7/0046	. . . {Infeed and outfeed devices}
B67C 7/0053	.... {using grippers (for supporting bottle necks during filling B67C 3/242)}
B67C 7/0073	. {Sterilising, aseptic filling and closing (B67C 3/2642 takes precedence)}
B67C 7/008	. . {comprising a cleaning step between two closing steps}
B67C 7/0086	. . {Sterilisation being restricted to the area of application of the closure}
B67C 7/0093	. {Lever action devices operated by hand or foot}
B67C 9/00	Devices for emptying bottles, not otherwise provided for {during preparation of alcoholic beverages except beer C12G 1/00}
B67C 11/00	Funnels, e.g. for liquids (filter funnels B01D 23/28; volume flow-meters G01F)
B67C 11/02	. without discharge valves
B67C 11/04	. with non-automatic discharge valves
B67C 11/06	. with automatic discharge valves
B67C 11/063	. . { for preventing spilling or dripping}
B67C 11/066	. . { for preventing overflow of the filled container}
B67C 2003/00	Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus; Filling casks or barrels with liquids or semiliquids (filling containers with liquids or semiliquids using apparatus other than bottling or like apparatus B65B 3/00)

B67C 2003/02	. Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus
B67C 2003/22	.. Details
B67C 2003/221	... Automatic exchange of components
B67C 2003/226	... Additional process steps or apparatuses related to filling with hot liquids, e.g. after-treatment
B67C 2003/227	... Additional apparatus related to blow-moulding of the containers, e.g. a complete production line forming filled containers from preforms
B67C 2003/228	... Aseptic features
B67C 2003/26	... Filling-heads; Means for engaging filling-heads with bottle necks
B67C 2003/2602	.... Details of vent-tubes
B67C 2003/2605	..... Piston-like check valves
B67C 2003/2645	.... Means to avoid overfilling by preventing gas returning from the container into the filling tank via the liquid valve, e.g. mesh screens
B67C 2003/2648	.... Inflatable gaskets for sealingly engaging bottle necks or bodies
B67C 2003/2651	.... The liquid valve being carried by the vent tube
B67C 2003/2654	..... specially adapted for bottom filling, e.g. the liquid valve being located at the lowest part of the vent tube
B67C 2003/2657	.... specially adapted for filling cans
B67C 2003/266	.... Means for centering the container with the filling head
B67C 2003/2662	..... with means for detecting the presence of a container
B67C 2003/2665	.... Means for locking the filling head in a given position once engaged by a container
B67C 2003/2668	.... Means for adapting the filling head to various sizes of containers
B67C 2003/2671	.... Means for preventing foaming of the liquid
B67C 2003/2674	..... by creating a conical shaped flow directed to the container wall at the container neck height
B67C 2003/2677	..... by means of a deflector
B67C 2003/268	..... by means of a flow channel integral with the filling nozzle
B67C 2003/2682	.... by creating a conical shaped flow directed to the container wall just above the container bottom
B67C 2003/2685	.... Details of probes
B67C 2003/2688	.... Means for filling containers in defined atmospheric conditions
B67C 2003/2691	..... by enclosing one container in a chamber
B67C 2003/2694	..... by enclosing a set of containers in a chamber
B67C 2003/2697	..... by enclosing the container partly in a chamber
B67C 2007/00	Concurrent cleaning, filling, and closing of bottles; Processes or devices for at least two of these operations
B67C 2007/0006	. {Conveying; Synchronising}
B67C 2007/006	.. Devices particularly adapted for container filling
B67C 2007/0066	.. Devices particularly adapted for container closing

B67C 2011/00 **Funnels, e.g. for liquids** ([filter funnels B01D 23/28](#); [volume flow-meters G01F](#))

- B67C 2011/02 . without discharge valves
- [B67C 2011/022](#) . . for draining oil from engines
- [B67C 2011/025](#) . . . with integral tool for opening the draining plug
- [B67C 2011/027](#) . . for filling oil into engines
- [B67C 2011/20](#) . comprising closures, e.g. stoppers, caps or lids
- [B67C 2011/30](#) . comprising venting means
- [B67C 2011/40](#) . comprising level indicating means